

IN THE CLAIMS

Kindly amend the claims to read as follows:

1. (original) A method of making a compound semiconductor material act as a semimetal semiconductor, comprising the step of doping said material to a dopant density exceeding 1×10^{19} cm⁻³ while maintaining majority carrier mobility sufficient to keep the conductivity above 10,000 mhos.
2. (original) The method of claim 1 wherein the undoped form of said compound material exhibits an electronic affinity larger than 4.1 eV.
3. (original) The method of claim 1 wherein hyperdoping is utilized.
4. (original) The method of claim 1 wherein the doping is not spatially separated from the SMSC material.
5. (original) The method of claim 1 wherein said compound semiconductor material comprises an alloy of phosphorous.

6. (original) The method of claim 1 wherein said step of doping employs a growth temperature between 500 and 800 kelvins.
7. (original) The method of claim 6 wherein said step of doping utilizes molecular beam epitaxy.
8. (amended) The method of ~~step~~ claim 1 where the free carrier concentration exceeds $1 \times 10^{19} \text{ cm}^{-3}$.
9. (amended) The method of ~~step~~ claim 1 where the free carrier concentration exceeds $2 \times 10^{19} \text{ cm}^{-3}$.
10. (amended) The method of ~~step~~ claim 1 where the free carrier concentration exceeds $4 \times 10^{19} \text{ cm}^{-3}$.
11. (amended) The method of ~~step~~ claim 1 where the free carrier concentration exceeds $8 \times 10^{19} \text{ cm}^{-3}$.
12. (amended) The method of ~~step~~ claim 1 where said material is a bulk material.
13. (amended) The method of ~~step~~ claim 12 where said bulk material is at least 30 nm thick.
14. (amended) The method of ~~step~~ claim 12 where said bulk material is at least 50 nm thick.

15. (amended) The method of ~~step~~ claim 12 where said bulk material is at least 100 nm thick.
16. (original) A compound semiconductor material with conductivity above 10,000 mhos, and free carrier concentration above 10^{19} cm⁻³.
17. (original) The material of claim 16 where said compound semiconductor material is a III-V compound semiconductor and contains indium.
18. (withdrawn) A microelectronic device including from a semimetal semiconductor.
19. (withdrawn) A microelectronic device in accordance with claim 18, wherein said device includes a rectifying contact between said semimetal semiconductor and a semiconductor.
20. (withdrawn) A microelectronic device in accordance with claim 18, wherein said device includes a high-conductivity channel formed from said semimetal semiconductor.
21. (new) A compound semiconductor material that acts as a semimetal semiconductor made by a process

comprising the step of doping said material to a dopant density exceeding 1×10^{19} cm⁻³ while maintaining majority carrier mobility sufficient to keep the conductivity above 10,000 mhos.

22. (new) A compound semiconductor material, as defined in claim 21, wherein said step of doping employs a growth temperature between 500 and 800 kelvins.

23. (new) A compound semiconductor material, as defined in claim 21, wherein said compound semiconductor material comprises a III-V compound semiconductor and contains indium.